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Subj: UC-12 T&R MANUAL

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Encl: (1) UC-12 T&R MANUAL

1. <u>Purpose</u>. To revise standards and regulations regarding the training of UC-12 aircrew per the reference.

2. <u>Information</u>. During Fiscal Year 2005, all UC-12 Fleet Replacement Training Squadrons (FRTS) were disestablished. As such, two new Plans of Instruction (POI) have been created to compensate for the loss of the FRTSs. The new POIs, Flight Safety International Initial Plus and Supplemental Flight Syllabus have been incorporated in this revision.

3. <u>Recommendations</u>. Recommended changes to this publication are invited, and may be submitted via the syllabus sponsor (VMR Detachment Iwakuni) and the appropriate chain of command to: Commanding General, Training and Education Command, Aviation Training Branch via e-mail (refer to http://www.tecom.usmc.mil/atb/contacts_.htm) or the Defense Message System using the following plain language address: CG TECOM QUANTICO VA ATB.

4. <u>Reserve Applicability</u>. This Manual is applicable to the Marine Corps Total Force.

5. <u>Certification</u>. Reviewed and approved this date.

GEORGE J. FLYNN
By direction

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CHAPTER 1

UC-12 PILOT

* * **N O T E** * *

Crew Resource Management will be briefed for all flights and aircrew positions

CHAPTER 1

C-12 PILOT

100. <u>UC-12 CORE COMPETENCY</u>. The UC-12 T&R Manual represents the collaborative effort of UC-12 subject matter experts who designed training standards to maximize the full capabilities of the UC-12 and its crew. These standards, intrinsic in the core competency section, describe and define unit capabilities and requirements necessary to maintain like-squadron proficiency in core skills and flight leadership. Training events are based on specific requirements and performance standards to ensure aircrew maintain a common base of training and depth of capabilities. Together, the T&R comprises a building block approach to ensure that trained aircrews remain ready, relevant, and fully capable of supporting the MAGTF commander.

1. <u>Mission</u>. Support the MAGTF Commander by providing time sensitive air transport of high priority passengers and cargo, day or night under all weather conditions during expeditionary, joint, or combined operations.

2. <u>Mission Essential Task List</u>

    a. <u>(UJTL OP 1.1.2.1) Conduct Airlift in the Joint Operations Area (JOA)</u>. Conduct military logistics lifts in support of Joint Operations.

    b. <u>(UJTL OP 4.7.3) Provide support to DOD and other Government agencies</u>.

        (1) Maintain aircrew and aircraft availability for time-sensitive mission support.

        (2) Provide passenger lift support.

        (3) Provide cargo lift support.

    c. <u>(UJTL TA 1.1.4) Conduct Sea and Air Deployment Operations</u>.

        (1) Maintain the capability to deploy and operate from advanced bases, expeditionary airfields and forward operating bases.

        (2) Perform organizational maintenance on assigned aircraft.

    d. <u>(UJTL 1.2.4) Conduct Counterdrug Operations. Support Federal Counter-Narcotic Operations</u>.

    e. <u>(UJTL TA 4.2) Distribute Supplies and Provide Transport Services</u>.

        (1) Transport commanders, staffs, and liaison personnel where needed in theater.

        (2) Transport Non-Government Organization representatives.

        (3) Transport vital intelligence, documents, ATOs and POWs.

        (4) Transport medical teams, supplies and equipment.

        (5) Transport critical parts, supplies, and maintenance personnel.

        (6) Provide support for casualty evacuation operations.

        (7) Conduct aerial re-supply.

(8) Support Department of Homeland Defense Operations.

  f. (UJTL TA 6.2) Conduct Joint Personnel Recovery. Augment local Search and Rescue (SAR) assets.

  g. (UJTL TA 6.4) Conduct Noncombatant Evacuation. Provide support for evacuation (NEO) operations.

3. Table of Organization. Due to the diversity of VMR detachments in manning and aircraft assigned, a standard Table of Organization is not practical. The following guidance is suggested:

<div align="center">

VMR Detachment

6 pilots per aircraft minimum
2 Transport Aircrew per aircraft minimum

</div>

4. Core Capability Statement. A Core Capable unit is able to sustain 3 sorties per aircraft on a daily basis during contingency/combat operations. The above sortie rates are based on a 3-hour sortie duration and aircrew limitations. The core capability will be enhanced or will degrade based on shorter and longer sortie lengths respectively. The unit is able to accomplish all tasks designated in the unit METL from a main base and/or expeditionary base.

5. METL/Core Skill Matrix. Unit core skills directly support the unit METL as follows:

METL	FAM	INST
a. Conduct Airlift in the JOA.	X	X
b. Provide support to DOD and other Government agencies.	X	X
c. Conduct Sea and Air deployment operations.	X	X
d. Support counter-drug operations	X	X
e. Distribute supplies and provide transport services.	x	x
f. Provide support for Search and Recovery Operations (SAR)	x	x
g. Provide support for Noncombatant Evacuation Operations (NEO)	X	X

6. Qualifications and Designations Tables. The tables below delineate T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All required ground training will be completed prior to completion of the final events. Qualification and designation letters signed by the commanding officer shall be placed in individual NATOPS and APR jackets. Loss of proficiency in any qualification event causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification.

Qualification (Tracking Code)	Initial Qualification Requirements
NATOPS (600E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
Instrument (601E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.

Designation (Tracking Code)	Designation Requirements
T2P (620E)	All required level 200 codes, 600E, and a designation letter signed by the commanding officer.
Transport Plane Cmdr (630E)	Be nominated by standardization board, all required level 300 codes, 600E, 601E, and a designation letter signed by the commanding officer.
FCP (640E)	Be nominated by standardization board, and IAW OPNAV 3710.7, designation letter signed by the commanding officer, and DESIG-630.
Instructor Pilot (650E)	Be nominated by standardization board, all required level 500 codes, and a designation letter signed by the commanding officer.

7. <u>Instructor Requirements</u>. As a minimum, VMR Detachments should strive to maintain 3 Instructor Pilots (IP), 1 of which should be a qualified Crew Resource Management Instructor (CRMI). IPs shall be CRM facilitators.

101. <u>PROGRAM OF INSTRUCTION (POI) FOR BASIC, TRANSITION, AND CONVERSION PILOT</u>. POI prerequisite - Designated Naval Aviator.

WEEK	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-6	Core Skill Introduction Training	CACT
6-26	Core Skill Basic Training	CACT/VMR Det
27-52	Core Skill Advanced Training	CACT/VMR Det
53+	Instructor Under Training	VMR Det

102. <u>POI FOR REFRESHER PILOT (T2P/TPC/IP)</u>. Refer to NATOPS Refresher requirements for T2P. TPC and IP re-qualifications will be at the discretion of the unit CO based on Standardization board recommendation.

WEEK	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-12	Core Skills Basic Training	CACT/VMR Det
13-26	Core Skills Advance Training	CACT/VMR Det
27+	Instructor Under Training	VMR Det

103. <u>POI FOR INSTRUCTOR PILOT</u>. The pilot must have 300 hours of fixed-wing flight time and 50 hours as TPC in model in order to be considered for instructor training.

WEEK	COURSE/PHASE	ACTIVITY
1-3	Instructor Under Training (IUT)	VMR Det

104. GROUND/FLIGHT/SIMULATOR EVENT PERFORMANCE REQUIREMENTS

1. <u>General</u>

   a. This Manual is designed to provide the most comprehensive training possible yet maintain flexibility in a rapidly changing operational environment.

   b. UC-12 Ground School will be conducted at the Civilian Approved Contracted Training (CACT) site prior to commencing flight training.

   c. All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance. PUI must be debriefed after each initial training code prior to commencing the next event.

   d. Pilots shall not begin events annotated with an N until 30 minutes after official sunset.

   e. Transition and Conversion aircrew will fly the Basic POI. Refresher pilots will fly all R coded events.

   f. The Pilot Training Officer (PTO) shall ensure all Aircrew Training Forms (ATF) are entered in Section 3 of the APR for all initial sorties. Where applicable, these forms will replace ATFs previously entered in Section 3.

   g. The PTO shall ensure that an ATF be entered in Section 3 of the APR for all E coded events.

   h. All events marked CACT shall be accomplished at the approved CACT Simulator site in accordance with appropriate directives.

   i. Training flights are to be flown in chronological order when dictated by syllabus prerequisites.

   j. Aircrews shall include CRM as an integral part of every flight. CRM annual classroom training requirements may be accomplished at the CACT facility during initial and recurrent training. CRM annual flight evaluation should be accomplished at the unit.

105. CORE SKILL INTRODUCTION PHASE

1. <u>General</u>

   a. The Core Skill Introduction Phase shall be conducted at the CACT Site.

   b. At the successful completion of this phase of training concluding with the RQD-600 event, the PUI will be recommended for continuation of the Core Skills Basic Phase.

2. <u>Familiarization</u>

   a. <u>Purpose</u>. Develop proficiency with normal and emergency procedures for the aircraft. On all training flights, crew responsibilities and coordination shall be stressed.

    b. <u>General</u>

       (1) SFAM-101 thru SFAM-109 (RQD-600) shall be instructed by a qualified CACT-approved Instructor.

       (2) While attending either the CACT-approved Pilot Initial or Pilot Recurrent courses, each pilot will spend 2 hours in the left seat and 2 hours in the right seat for a total of 4 hours per sortie.

       (3) Every attempt should be made to ensure USMC checklists and procedures are studied and adhered to during the CACT training while operating as both the pilot flying and the pilot not flying.

    c. <u>Crew Requirements</u>. SFAM-101 thru SFAM-109 (RQD-600) may be accomplished with just the PUI and contracted instructor. However, every attempt should be made to pair the PUI with another USN/USMC PUI in order to facilitate training using established USN/USMC UC-12 procedures.

    d. <u>Ground/Academic Training</u>. Complete the CACT approved Pilot Initial ground training course.

    e. <u>Simulator/Flight Training</u>. (9 Events, 36.0 Hours simulator).

SFAM-101   4.0   CACT

            <u>Goal</u>. Introduce the pilot to crew coordination, checklist procedures, cockpit instrument scan, basic flight maneuvers and flight characteristics.

            <u>Requirement</u>. See SIM-1 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

            <u>Performance Standard</u>. Demonstrate familiarity with basic flight maneuvers, checklist procedures, crew coordination, and flight characteristics.

SFAM-102   4.0   CACT

            <u>Goal</u>. To instruct the PUI in engine starts with associated malfunctions, electric and fuel-related malfunctions, autopilot and flight director operations, airwork, holding, approaches, missed approach/go-around procedures, emergency engine shutdown procedures and engine airstart procedures.

            <u>Requirement</u>. See SIM-2 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

            <u>Performance Standard</u>. Demonstrate proficiency with all normal and abnormal starts and checklist procedures. Demonstrate familiarity with electric and fuel-related malfunctions, holding, instrument approach procedures, and single-engine procedures. Continue to develop effective CRM skills.

            <u>Prerequisite</u>. SFAM-101.

SFAM-103   4.0   CACT

Goal. Review normal procedures and selected abnormal/emergency procedures to include engine and prop malfunctions, abort procedures, pressurization and pneumatic problems, and anti-ice/deice problems.

Requirement. See SIM-3 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-102.

SFAM-104   4.0   CACT

Goal. Instruct PUI on departure, enroute climb, enroute high altitude, normal descent, and terminal procedures for a line flight from one airport to another airport. Introduce and discuss the ice and rain protection systems, procedures, and malfunctions. Introduce the TCAS/TCAS II system. Introduce and practice single-engine missed approach procedures. Review previous systems and additional related malfunctions.

Requirement. See SIM-4 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. The PUI should be able to demonstrate to the instructor normal, abnormal, and selected emergency procedures and checklist usage in a timely and sequentially correct manner.

Prerequisite. SFAM-103.

SFAM-105   4.0   CACT

Goal. To instruct PUI on procedures for engine failures at or after Vr and subsequent single-engine approaches and missed approaches. Introduce and practice crosswind takeoffs and landings. Discuss windshear scenarios during takeoff and landing and apply the procedures in various windshear scenarios during takeoff and landing.

Requirement. See SIM-5 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Demonstrate correct engine failure procedures during critical flight stages and practice crosswind takeoff and landing technique. Demonstrate proper windshear recognition and escape procedures during takeoff and landing scenarios. Continue to develop standardized checklist procedures and CRM skills.

Prerequisite. SFAM-104.

SFAM-106   4.0   CACT

Goal. Instruct the student on high density altitude conditions and the effect on aircraft performance with both engines and one engine inoperative. Review previously discussed systems and related malfunctions.

Requirement. See SIM-6 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. PUI should demonstrate ability to conduct normal and emergency procedures at high density altitude field conditions. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-105.

SFAM-107   4.0   CACT

Goal. Instruct PUI on landing gear, wheel brake, and wing flap systems and related malfunctions. Discuss dual engine failure/flameout and power off glide procedures. Discuss and perform ditching procedures. Provide a general review of previous systems and malfunctions.

Requirement. See SIM-7 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. PUI should demonstrate ability to recognize and execute emergency procedures related to landing gear, wheel brake, and wing flap systems. Continue to practice standardized checklist and operational procedures and CRM skills.

Prerequisite. SFAM-106.

SFAM-108   4.0   CACT

Goal. PUI will conduct a comprehensive review of previous systems, procedures, and malfunctions in preparation for a NATOPS Evaluation Flight. Cover any specific PUI requests or problems. Malfunctions and failures will be induced at the instructor's discretion based on the student's level of proficiency.

Requirement. See SIM-8 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Progress check for PUI. PUI should demonstrate ability to apply correct NATOPS procedures for instructor selected malfunctions and emergency scenarios. PUI should demonstrate appropriate CRM skills in handling these emergency scenarios.

Prerequisite. SFAM-107.

SFAM-109   4.0   CACT

> Goal. Conduct a UC-12 NATOPS Evaluation Flight in accordance with Chapter 30 of the NAVAIR 01-C12AAA-1 NATOPS Flight manual.
>
> Requirement. See Chapter 30 of the NAVAIR 01-C12AAA-1 NATOPS Flight Manual and RQD-600 from this T&R.
>
> Performance Standard. Demostrate NATOPS standards to operate as PUI in accordance with UC-12 NATOPS Chapter 30.
>
> Prerequisite. SFAM-108.

106. CORE SKILL BASIC PHASE

1. General

    a. This phase contains basic core skill training essential to operational employment of the UC-12.

    b. At the completion of this phase of training and the DESG-620 event, the PUI should be designated a Transport Second Pilot (T2P).

    c. The Core Skill Basic Phase shall be conducted at the CACT site (R), and the VMR DET.

2. Familiarization

    a. Purpose. Develop proficiency as a T2P with the systems management requirements of the UC-12 in all takeoff, landing, and flight modes. At the completion of the core skill basic phase the PUI should be able to meet performance standards for various maneuvers IAW Part 10, Chapter 30 of the UC-12 NATOPS Manual.

    b. General

        (1) PUIs shall successfully complete approved CACT initial course prior to starting this phase of training.

        (2) Flights in this stage of instruction shall be flown sequentially, single-sortie, with a designated IP, and include a complete brief/debrief for each flight.

        (3) Only Refresher aircrew scheduled for CACT recurrent training shall complete the SFAM-201 – SFAM 203 series codes.

        (4) While attending the CACT-approved pilot recurrent course, each pilot will spend 2 hours in the left seat and 2 hours in the right seat for a total of 4 hours.

        (5) SFAM-201 through SFAM-203 are annual requirements (365 day refly interval). Depending on operational necessity, the commanding officer may defer the annual requirement for a period not to exceed 180 days.

    c. Crew Requirements. IP and PUI.

    d. Flight and Simulator Event Training. (3 Events, 12.0 Hours (R)/6 Events, 13.5 Hours Initial).

SFAM-201   4.0   R   CACT

<u>Goal</u>. Perform normal procedures/checklists, engine starts, engine run-up procedures with associated malfunctions. Review the engine system, propeller system, electrical system, fuel system, and related malfunctions. Practice airwork items including takeoffs, climbs, turns, steep turns, stalls, descents, holding, instrument approaches, landings, and single engine procedures. Discuss, observe, and practice Aircrew Coordination skills during simulator training.

<u>Requirement</u>. See SIM-1 in the FlightSafety international United States Navy/Marine Corps UC-12 Refresher Training Course for detailed description of event.

<u>Performance Standard</u>. Demonstrate proper procedures and aircraft handling during all phases of flight.

<u>Prerequisite</u>. DESIG-620.

SFAM-202   4.0   R   CACT

<u>Goal</u>. Perform engine starts with associated failures and practice normal and abbreviated ground procedures. Review the charts and practice the procedures applicable to high altitude, high temperature takeoff with an engine failure after Vr, a subsequent single engine approach, and/or single engine missed approach, Review the pressurization system, pneumatic systems, environmental systems, oxygen system, and related malfunctions. Continue to review the engine system, propeller system, electrical system, fuel system, and related malfunctions. Conduct additional instrument procedures, approaches, and missed approaches. Experience and practice crosswind landings, takeoffs, and recovery from low level wind shear. Continue to apply Aircrew Coordination Skills.

<u>Requirement</u>. See SIM-2 in the FlightSafety international United States Navy/Marine Corps UC-12 Refresher Training Course for detailed description of event.

<u>Performance Standard</u>. Demonstrate proper procedures and aircraft handling during all phases of flight.

<u>Prerequisite</u>. SFAM-201.

SFAM-203   4.0   R   E   CACT

<u>Goal</u>. Perform all the procedures/checklists necessary to complete a short round trip between 2 airports. Review the anti-ice systems, flight control systems, landing gear system, wheel brake system, pitot-static system, avionics and flight instrument systems, and related malfunctions. Review any systems and/or related malfunctions from the previous simulator periods as necessary. Conduct additional instrument procedures, approaches, and missed approaches. Continue to fine tune Aircrew Coordination skills.

<u>Requirement</u>. See SIM-3 in the Flight Safety International United States Navy/Marine Corps UC-12 Refresher Training Course for detailed description of event.

Performance Standard. Demonstrate knowledge of systems and competent handling of the aircraft with emphasis on flight skills, situational awareness, and headwork.

Prerequisite. SFAM-202.

FAM-210   2.5   UC-12

Goal. Introduce the pilot to basic preflight and ground checklist procedures. Demonstrate and introduce normal, abnormal, and emergency procedures.

Requirement. Demonstrate weight and balance, performance data, OPARS, filing requirements, maintenance administration, NALCOMIS/yellow sheets, aircraft discrepancy book, preflight, checklist utilization, and pre-event crew coordination. Preflight briefing to include normal/abnormal start procedures, run-up procedures, emergency engine shutdown on deck, aborted takeoff, emergency equipment, emergency egress, engine failure after Vr, ditching procedures (simulated single engine (SSE), dual engine on/off), touch and go procedures, EGPWS operation and alerts, and TCAS operation and alerts. Demonstrate aborted take-off, normal take-off and departure, ditch (2 engine on), engine shutdown procedure (inflight), airstart procedure (starter assist), normal landings, SSE pattern, SSE landing, SSE wave-off, abort, stalls and stall recovery procedures. Introduce turn pattern, slow flight, stalls and stall recovery, normal landing pattern, approach flap landing, full flap landing, no flap landing, wave-off (2 engine), and full stop reverse landing. Practice aircraft inspection, engine starting procedures, engine run-up, taxiing, shut-down, cockpit/crew coordination, operating limits (engine).

Performance Standard. In accordance with current maneuver description guide and NATOPS flight manual.

Prerequisite. RQD-600, SFAM-109.

FAM-211   2.5   R   UC-12

Goal. Introduce and practice normal, abnormal, and emergency procedures.

Requirement. Preflight briefing to include GPU start procedures, jammed flight controls, door open light (in flight), oxygen system, smoke and fume elimination, runaway torque on deck, fire detection/extinguisher system, engine fire on deck, loss of and hot brakes, flap system failure, and electrical system malfunction. Demonstrate/Introduce SSE After Takeoff (ATO) (no rudder boost/at altitude), airstart (windmilling), and SSE ditch. Practice aborted take-off, airstart procedures, SSE pattern, SSE landing, SSE wave-off, emergency checklists, engine fire in-flight, electrical fire, and abort. Review preflight inspection, engine start, taxiing, takeoff/departure, stalls/recoveries, landing pattern (normal), approach flap landing, full flap landing, no flap landing wave-off (2 engine), full stop/reverse landing, SSE reverse landing, shut-down, and post-flight.

Performance Standard. In accordance with current maneuver description guide and NATOPS flight manual.

Prerequisite. FAM-210.

FAM-212   2.5   R   UC-12

Goal. Practice emergency procedures application and previous FAM instruction.

Requirement. Preflight briefing to include oil system emergencies, cargo door operations, emergency egress hatch, runaway torque after Vr, electric trim failure, engine failure (2nd engine), in-flight fires, landing gear emergencies, landing gear alternate extensions, propeller failure/overspeed, fuel system emergencies, A/C operating limits (airframe), forced landing (no power), and pressurization failures. Introduce emergency descent, air-start (windmilling), dual engine failure, propeller malfunctions, ditch (2 engine out), SSE ATO (no rudder boost), SSE wave-off (no rudder boost), and engine fire on deck. Practice stall recoveries, landing patterns normal/SSE, and landings normal/SSE. Review previous emergencies and procedures.

Performance Standard. In accordance with current maneuver description guide and NATOPS flight manual.

Prerequisite. FAM-211.

4. Instruments

   a. Purpose. To acquaint the PUI with the flight characteristics, navigation equipment, and flight instruments under simulated or actual instrument flying conditions. PUI should demonstrate keen awareness of flight instrument interpretation and spatial orientation.

   b. General. Approaches should terminate in touch-and-go landings if possible.

   c. Crew Requirements. IP, PUI.

   d. Ground/Academic Training. Complete locally approved Instrument Ground school course.

   e. Flight Training (2 Flights, 4.0 Hours)

INST-221   2.0   UC-12 (N)

Goal. Introduce UC-12 instrument procedures and precision/nonprecision capabilities.

Requirement. Preflight briefing to include NATOPS section six precision/nonprecision procedures, VOR procedures, ILS/LOC/BC procedures, GCA/ASR procedures, TACAN procedures, nonprecision SSE procedures, autopilot/Flight Director Indicator (FDI)/Horizontal Situation Indicator (HSI) utilization, enroute/cruise procedures, autopilot coupled approach, autopilot emergency disengage, electric elevator trim failure, autopilot trim failure light, and copilot utilization/duties. Introduce instrument departure, VOR approach, ILS/LOC/BC approach, TACAN approach, ASR/GCA approach, SSE approaches, SSE missed approach, holding, and copilot utilization. Review

normal landings, SSE landings, previous emergencies, and procedures.

Performance Standard. In accordance with NATOPS flight manual and OPNAV instrument flight manual.

Prerequisite. FAM-212.

INST-222   2.0   R   UC-12   (N)

Goal. Introduce PUI to copilot duties and introduce right seat operations.

Requirement. Preflight briefing to include NATOPS section three, copilot duties, arrival transition, anti-ice/de-ice system, severe weather procedures, radar utilization, FMS, HF procedures, and filing in-flight. Introduce copilot responsibilities, right seat approach, right seat landing, FMS, and HF procedures. Practice voice procedures, checklist utilization, secure procedures, and fuel servicing. Review previous stage emergencies and procedures.

Performance Standard. Competently perform all duties of a Transport Second Pilot while practicing good CRM from the right seat.

Prerequisite. INST-221.

107.   CORE SKILL ADVANCED PHASE

1. General

    a. Aircrew in this phase shall be recommended by the standardization board and meet the requirements of the NATOPS flight manual and other local directives.

    b. Emphasis on this phase is flight leadership and aeronautical competence. The PUI must be able to manage the cockpit in all phases of flight and use sound judgment with regard to mission decisions. A sound knowledge of all aircraft systems, local SOPs, and USMC OSA procedures is a requirement and shall be thoroughly vetted during the event briefs.

2. Familiarization

    a. Purpose. Demonstrate knowledge in aircraft systems and the ability to safely handle all operations.

    b. General. The purpose of this stage is to prepare the PUI for designation as TPC by concentrating on cockpit leadership and mission competence.

    c. Ground/Academic Training. Prior to stage completion a NATOPS open and closed book exam must be completed.

    d. Crew Requirements. IP, PUI.

    e. Flight Training. (2 Events, 4.5 Hours).

FAM-301   2.0   R   UC-12

Goal. Prepare PUI for duties as TPC in UC-12.

Requirement. Discuss aircraft commander responsibilities. Review UC-12 normal, abnormal, and emergency procedures. Demonstrate the ability to lead and coordinate crew actions during normal, abnormal, and emergency situations.

Performance Standard. Competently perform all duties of a TPC while practicing good CRM.

Prerequisite. DESG-620.

108. CORE PLUS PHASE

1. General

   a. This phase of training allows additional unit training flexibility in order to support requests generated by the fleet.

   b. Training accomplished in this phase is not required for proficiency in primary missions.

   c. Ground/Academic Training. Ground/Academic training developed at the unit level based on local requirements and anticipated future support requirements.

   d. Flight/Simulator Training. (3 Events, 7.0 Hours)

FAM-401   3.0   UC-12

              Goal. Train TPC to navigate along a published VR Route, no lower than 1000' AGL.

              Requirement. PUI plan and execute VFR flight using appropriate VFR charts and DR navigation. Flight should consist of two legs in which the PUI navigates from the right seat using the VFR charts and DR techniques as the primary means of navigation and instrument navaids/FMS as secondary. For the second leg PUI will fly from the left seat while IP navigates from the right seat.

              Performance Standard. NFM.

              Crew Requirements. IP, TPC/T2P.

              Prerequisite. DESIG-630.

FAM-402   2.0   UC-12

              Goal. Train the TPC in basic search and rescue and on-scene commander procedures.

              Requirement. PUI demonstrate the ability to act as on-scene commander and to conduct basic visual search using various search patterns.

              Performance Standard. NFM

              Crew Requirements. IP, TPC/T2P.

              Prerequisite. DESIG-630.

FAM-403   2.0   R   UC-12

      Goal. Train TPC in short and unimproved airfield operations.

      Requirement. PUI should demonstrate proficiency in short field and unimproved airfield operations.

      Performance Standard. NFM

      Crew Requirements. IP, TPC/T2P.

      Prerequisite. DESIG-630.

109. INSTRUCTOR UNDER TRAINING (IUT)

1. Purpose. Develop and evaluate skills required to instruct initial and Refresher pilots in appropriate phase events.

2. General. The following general requirements shall be adhered to:

    a. Standardization Board Recommended and CO/OIC approval.

    b. 300 hours of total fixed-wing pilot time.

    c. 50 hours as TPC in model.

    d. Designated CRM Facilitator. This requirement may be waived for designation purposes but shall be completed as soon as possible based on Crew Resource Management Instructor (CRMI) availability.

    e. IUT-505 is not required to be designated an IP. IUT-505 is required to instruct in 400 level events.

    f. The IUT shall demonstrate unwavering control over all aspects of aircraft operation.

    g. IUT-505E is not required to be designated an IP. IUT-505 is required to instruct in 400 level events. IP should instruct for a minimum of 10 hours before completing the IUT-505E.

3. Ground/Academic Training. Complete local IUT ground school syllabus and CRM facilitator course.

4. Flight/Simulator Event Training (6 Events, 13.5 Hours)

110. IUT PERFORMANCE REQUIREMENTS

1. Purpose. Standardize Instructor Pilot (IP) procedures for the UC-12 aircraft. The IP under training in this stage will fly all events from the right seat.

2. Crew Requirement. IP, IUT.

3. Training (6 Flights, 13.5 Hours)

IUT-501   2.0   E   UC-12

      Goal. IUT familiarization introduction.

      Requirement. Brief instructional technique, systems knowledge, procedural knowledge, and time management. Flight maneuvers to

include start, taxi, runup, turn pattern, slow flight, stalls,
Vmc demo (by instructor), engine failures cruise and after
takeoff (at altitude), landing pattern, SSE landing pattern,
waveoff, SSE waveoff, landings, abort, EP's, and BAW.
Instructional skills to include headwork, cockpit/crew
coordination, EP checklists, time management, and critique/
error correction. Postflight to include debrief, critique, and
NATOPS grading standards. Flight will utilize the FAM-102
syllabus.

Performance Standard. Demonstrate knowledge of instructional
techniques.

Crew Requirements. IP, IUT.

Prerequisite. DESIG-630.

IUT-502   2.0   E   UC-12

Goal. Introduce phase-appropriate instructional techniques
during the conduct of an actual instructional sortie.

Requirement. Brief instructional technique, systems knowledge,
procedural knowledge, time management. Review start, run-up
and shutdown, turn pattern, slow flight, stalls, landing
pattern, landings, abort, SSE reversing, SSE after take-off (no
rudder boost/with autofeather), short-field takeoff, dual
engine failure (simulated), windmilling airstart, SSE/dual
engine out ditch, prop malfunctions, and engine fires (at
altitude, in pattern, and on deck). Instructional skills to
include headwork, cockpit/crew coordination, EP checklists,
time management, and critique/error correction. Postflight to
include debrief, critique, and grading. Flight will utilize
the FAM-103 syllabus

Performance Standard. Demonstrate knowledge of instructional
techniques.

Crew Requirements. IP, IUT.

Prerequisite. IUT-501.

IUT-503   2.0   E   UC-12

Goal. IUT instrument/navigation introduction.

Requirement. Brief instructional technique, systems knowledge,
procedural knowledge, and time management. Review start, run-
up & shutdown, engine failures (at altitude, in pattern, and
ATO), slow flight, stalls, ditch, emergency descent, landings
in all configurations, SSE landing, abort, and wave-offs (2
engine and SSE). Vmc demo (normal, no inputs, and wrong
rudder) microburst escape, basic instruments (BI) (turns,
climb, descents), Autopilot/Flight Director (AP/FD) use, and
AP/FD on ILS & nonprecision approaches. Instructional skills
to include headwork, CRM, EP checklists, time management,
critique/error correction. Postflight to include debrief,
critique, grading. Flight will utilize the FAM-104 and INST-
111 syllabus.

Performance Standard. Conduct a safe and efficient
instructional event.

Crew Requirements. IP, IUT.

Prerequisite. IUT-502.

IUT-504   2.0   R   E   UC-12

Goal. IUT instrument/navigation practice.

Requirement. Brief instructional technique, systems knowledge, procedural knowledge, time management, FLIP publications, and flight plan filing. Flight maneuvers to include VOR approach, NDB approach, circling approach, holding, ILS, PAR, selected approaches to include SSE procedures, enroute procedures, jet routes, and airspeed/endurance. Instructional skills to include headwork, cockpit/crew coordination, EP checklists, time management, and critique/error correction. Postflight to include debrief, critique, and grading. Flight will utilize INST-111 and INST-112 syllabus.

Performance Standard. Conduct a safe and efficient instructional event.

Crew Requirements. IP, IUT.

Prerequisite. IUT-503.

IUT-505   3.0   R   E   UC-12

Goal. Train IUT in Core Plus Skills.

Requirement. IUT demonstrate the ability to train and qualify initial and refresher pilots in on-scene commander and conduct of basic visual search patterns, short field and unimproved airfield operation, DR navigation techniques in VFR environment.

Performance Standard. Conduct a safe and efficient instructional event.

Crew Requirements. IP, IUT.

Prerequisite. DESIG-650.

111. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE

1. General. These events are to be used for the annual training requirements to include NATOPS and Instrument evaluation flights and official qualification and designation check-rides.

2. Requirements, Qualifications, and Designations Phase

   a. Purpose

      (1) Develop and evaluate skills in accordance with applicable directives.

      (2) Enable the VMR Detachment to document completion of required events. The event codes delineate satisfactory completion of all academic, simulator, and flight requirements.

b. Ground/Academic Training. Per the appropriate 100, 200 or 300 level syllabus.

RQD-600   4.0   R   E   CACT

        Goal. Initial NATOPS evaluation.

        Requirement. Perform annual NATOPS evaluation. See SIM-9 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

        Performance Standard. per NATOPS, OPNAVINST 3710.7.

        Prerequisite. Appropriate CACT syllabus completed. Satisfactory completion of NATOPS Open and Closed Book examinations.

RQD-601   2.5   R   E   UC-12 (N)

        Goal. Annual NATOPS instrument evaluation.

        Requirement. Perform annual Instrument evaluation.

        Performance Standard. Per OPNAVINST 3710.7_, NFM, and NIFM.

        Prerequisite. RQD-600. Appropriate syllabus completed or flight currency IAW NATOPS and OPNAVINST 3710.

3. Designations

    a. Purpose. To enable the VMR Detachment to document completion of designation events. Designation codes delineate satisfactory completion of all academic, simulator, and flight requirements for the designation being completed. Reference the appropriate 200, 300, 400, or 500 level codes for designation requirements.

    b. General. Designation flights will be flown only after all requirements for the respective designation have been met. Subsequent re-flight of sorties requiring the designation will automatically update these designation codes.

    c. Ground/Academic Training. Per the appropriate 200, 300, or 500 level syllabus.

    d. Flight/Simulator Event Training. None.

DESG-620   2.5   R   E   UC-12

        Goal. Annual NATOPS evaluation to qualify as a T2P.

        Requirement. The PUI will demonstrate flight planning, crew/ pax briefing, aircraft inspection, safety/survival equipment, pre-start, start (normal/emergency), taxi procedures, before takeoff procedures, normal takeoff procedures, normal after liftoff, climb and departure, level off and cruise, normal landing pattern, normal approach, approach flap landing, single engine approach, engine failure at Vr, single engine landing, no flap landing, full flap landing, wave-off (1 or 2 engine), engine fire on deck, engine fire in flight, propeller malfunctions, landing gear emergencies, brake malfunctions,

loss of AC or DC power, electrical fire, smoke removal, loss of pressurization, emergency descent, ditching (1 or 2 engine), ice system malfunction, airstart procedures, flight control malfunction, holding procedure, bearing interception, approach airspeed control, TACAN, ILS, VOR, ADF, GCA, missed approach procedures, checklist execution, engine operation, and post flight inspection.

Performance Standard. Competent knowledge of UC-12 systems and flight proficiency in all normal and emergency UC-12 operations as T2P.

Prerequisite. FAM-212 and INST-222. Satisfactory completion of NATOPS Open and Closed Book examinations. All flights in R 200 level codes complete.

Crew Requirements. IP, PUI.

DESIG-630   3.0   R   E   UC-12

Goal. Transport Plane Commander (TPC) designation.

Requirement. PUI shall demonstrate the ability to meet NATOPS qualification according to NATOPS evaluation criteria. The flight evaluation is designed to measure with maximum objectivity the degree of standardization demonstrated by the PUI and to ensure safety of flight. Discussion shall include responsibilities and limitations of flying with a Qualified Observer.

Performance Standard. Demonstrate flight competency and cockpit/crew leadership.

Prerequisite. Completion of NATOPS Open and Closed Book examinations, FAM-301.

Crew Requirements. IP, PUI.

DESIG-640   3.0   R   E   UC-12

Goal. Designate Functional Check Pilot (FCP).

Requirement. The flight shall consist of an "A" profile functional check flight (FCF).

Performance Standard. Satisfactorily execute procedures per the NFM, OPNAVINST 3710.7_, and OPNAVINST 4790.2_.

Prerequisite. DESIG-630. IAW OPNAVINST 3710.7, a designated TPC, nominated by the standardization board.

Crew Requirements. FCP, TPC.

DESIG-650   2.5   R   E   UC-12

Goal. IUT standardization check. The flight evaluation is designed to measure with maximum objectivity the degree of standardization demonstrated by pilot and crewmembers.

Requirement. Brief evaluation to include instructional
technique, procedures for EP simulation, Pilot Flying (PF)
responsibilities, Pilot In Command (PIC) actions, and oral
examination. Discuss the IP role in training a Naval Flight
Officer (NFO) to become a Qualified Observer (QO). Flight
maneuver setup, evaluation skills, complete coverage of NATOPS
grade sheet, BAW, headwork, situational awareness, and crew
coordination. IUT will debrief and analyze the flight per the
NATOPS evaluation sheet.

Performance Standard. Conduct a safe and efficient
instructional event.

Crew Requirements. IP, IUT.

Prerequisite. IUT-505.

112. SYLLABUS MATRIX

							UC-12 PILOT					
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INTVL	DEVICE	ENVIRMNT	PREREQ	POI	EVAL	CHAINING	EVENT DESC	EVENT CONV
100 SERIES CORE SKILL INTRODUCTION PHASE												
FAMILIARIZATION												
SFAM	101		4.0	*	S	*	CACT GROUNDSCHOOL				Familiarization	
SFAM	102		4.0	*	S	*	101				Familiarization	
SFAM	103		4.0	*	S	*	102				Familiarization	
SFAM	104		4.0	*	S	*	103				Familiarization	
SFAM	105		4.0	*	S	*	104				Familiarization	
SFAM	106		4.0	*	S	*	105				Familiarization	
SFAM	107		4.0	*	S	*	106				Familiarization	
SFAM	108		4.0	*	S	*	107				Familiarization	
SFAM	109		4.0	*	S	*	108				NATOPS Evaluation	600
			36.0	PHASE TOTAL								
200 SERIES CORE SKILL BASIC PHASE												
FAMILIARIZATION												
SFAM	201		4.0	540	S		620	R			Familiarization	
SFAM	202		4.0	540	S		201	R			Familiarization	
SFAM	203		4.0	540	S		202	R	E		Familiarization	
FAM	210	2.5		*	A	D	109, 600				Familiarization	101
FAM	211	2.5		180	A	D	210	R			Familiarization	102
FAM	212	2.5		180	A	D	211	R			Familiarization	103
		7.5	12.0	FAM Total								
INSTRUMENTS												
INST	221	2.0		*	A	(N)	212			211,212	Instrument	111
INST	222	2.0		*	A	(N)	221	R		211,212	Instrument	112
		4.0		INST Total								
		11.5	12.0	PHASE TOTAL								
300 SERIES CORE SKILL ADVANCE PHASE												
FAMILIARIZATION												
FAM	301	2.0		180	A	D	620, 222	R		620	TPC Review	400
		2.0		PHASE TOTAL								
400 SERIES CORE SKILL PLUS PHASE												
FAMILIARIZATION												
FAM	401	3.0		*	A	D	630			210,211,212,221,222	VFR Low Level	
FAM	402	2.0		*	A	D	630			210,211,212,221,222	Basic SAR	
FAM	403	2.0		365	A	D	630	R	E	210,211,212,221,222	Unimproved Airfield ops	
		7.0		PHASE TOTAL								

Notes: R – Refresh
        D – Day, N – Night, (N) Day or Night
- SFAM-101 through SFAM-109 and SFAM-201 through SFAM-203 will not be subject to automatic T&R code conversion and must be documented manually.
- SFAM-201 through SFAM-203 are annual requirements (365 day refly interval). Depending on operational necessity, the commanding officer may defer the annual requirement for a period not to exceed 180 days.

STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INTVL	DEVICE	ENVIRMNT	PREREQ	POI	EVAL	CHAINING	EVENT DESC	EVENT CONV
UC-12 PILOT
500 SERIES INSTRUCTOR TRAINING PHASE
INSTRUCTOR TRAINING
IUT	501	2.0		*	A		630		E	620	IP training	500
IUT	502	2.0		*	A		501		E	620	IP training	501
IUT	503	2.0		*	A		502		E	620	IP training	502
IUT	504	2.0		*	A		503	R	E	620	IP training	503
IUT	505	3.0		*	A		650	R	E	620	Core Plus IP Training	
		11.0			**PHASE TOTAL**
REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS
REQUIREMNTS
RQD	600		4.0	365	S		108	R	E		NATOPS Evaluation	
RQD	601	2.5		365	A	(N)	600	R	E		Instrument Check	
		2.5	4.0		
DESIGNATIONS
DESIG	620	2.5		365	A	D	212, 222	R	E	211,212,221,222, 600	T2P designation	300
DESIG	630	3.0		365	A	D	301	R	E	600,620,301	TPC designation	410
DESIG	640	3.0		*	A	D	630	R	E		FCP designation	
DESIG	650	2.5		365	A	D	504	R	E	600,620,630	IP designation	504
		11.0			

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Notes:   R - Refresh
         D - Day, N - Night, (N) Day or Night
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CHAPTER 2

UC-12 QUALIFIED OBSERVER

* * **N O T E** * *

Crew Resource Management will be briefed for all flights and aircrew positions

CHAPTER 2

UC-12 QUALIFIED OBSERVER

200. UC-12 CORE COMPETENCY

1. Mission. See Chapter 1.

2. Mission Essential Task List. See Chapter 1.

3. Table of Organization. See Chapter 1.

4. Core Capability Statement. See Chapter 1.

5. METL/Core Skill Matrix. See Chapter 1.

6. Qualifications and Designations Tables. The tables below delineate T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All required ground training shall be completed prior to completion of the final events. Qualification letters signed by the commanding officer shall be placed in individual NATOPS and APR jackets. Loss of proficiency in any qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification.

Qualification (Tracking Code)	Initial Qualification Requirements
QO NATOPS (RQD600E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
QO Instrument (RQD601E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.

Designation (Tracking Code)	Initial Designation Requirements
QO (DESIG620E)	All required level 200 codes and a designation letter signed by the commanding officer.

201. PROGRAM OF INSTRUCTION (POI) FOR BASIC QUALIFIED OBSERVER

WEEK	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-6	Core Skills Introduction Training	CACT
6+	Core Skills Basic Training	VMR Det

202. PROGRAM OF INSTRUCTION (POI) FOR REFRESHER QUALIFED OBSERVER

WEEK	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3+	Core Skills Basic Training	CACT/VMR Det

203. GROUND/FLIGHT/SIMULATOR EVENT PERFORMANCE REQUIREMENTS

1. General

    a. This Manual is designed to provide the most comprehensive training possible yet maintain flexibility in a rapidly changing operational environment.

b. UC-12 Ground School will be conducted at the Civilian Approved Contracted Training (CACT) site prior to commencing flight training.

c. All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance. QOUI must be debriefed after each initial training code prior to commencing the next event.

d. The Pilot Training Officer (PTO) shall ensure all Aircrew Evaluation Forms are entered in Section 3 of the APR for all initial sorties. Where applicable, these forms will replace Aircrew Evaluation Forms previously entered in Section 3.

e. All events marked CACT shall be accomplished at the approved CACT Simulator site in accordance with appropriate directives.

f. Training flights are to be flown in chronological order when dictated by syllabus prerequisites.

g. Aircrews shall include CRM as an integral part of every flight. CRM annual classroom training requirements may be accomplished at the CACT facility during initial and recurrent training. CRM annual flight evaluation should be accomplished at the unit.

204. <u>CORE SKILL INTRODUCTION PHASE</u>

1. <u>General</u>. The Core Skill Introduction Phase shall be conducted at the CACT Site.

2. <u>Familiarization</u>

a. <u>Purpose</u>. Proficiency with normal and emergency procedures for the aircraft. On all training flights, crew responsibilities and coordination shall be stressed.

b. <u>General</u>

(1) SFAM-101 thru SFAM-109 shall be instructed by a qualified CACT-approved Instructor.

(2) While attending either the CACT-approved QO Initial or QO Recurrent courses, the QOUI will spend 2 hours in the right seat for each sortie.

(3) Every attempt should be made to ensure USMC checklists and procedures are studied and adhered to during the CACT training.

c. <u>Crew Requirements</u>. SFAM-101 thru SFAM-109 may be accomplished with just the QOUI and contracted instructor. However, every attempt should be made to pair the QOUI up with another USN/USMC PUI in order to facilitate training using established USN/USMC UC-12 procedures.

d. <u>Ground/Academic Training</u>. Complete the CACT approved Pilot Initial ground training course.

e. <u>Simulator/Flight Training</u>. (9 Events, 18.0 Hours simulator).

<u>SFAM-101   2.0   CACT</u>

                            <u>Goal</u>. Introduce the QOUI to crew coordination, checklist procedures, cockpit instrument scan, basic flight maneuvers and flight characteristics.

Requirement. See SIM-1 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Demonstrate familiarity with basic flight maneuvers, checklist procedures, crew coordination, and flight characteristics.

SFAM-102   2.0   CACT

Goal. To instruct the QOUI in engine starts with associated malfunctions, electric and fuel-related malfunctions, autopilot and flight director operations, airwork, holding, approaches, missed approach/go-around procedures, emergency engine shutdown procedures and engine airstart procedures.

Requirement. See SIM-2 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Demonstrate proficiency with all normal and abnormal starts and checklist procedures. Demonstrate familiarity with electric and fuel-related malfunctions, holding, instrument approach procedures, and single-engine procedures. Continue to develop effective CRM skills.

Prerequisite. SFAM-101.

SFAM-103   2.0   CACT

Goal. Review normal procedures and selected abnormal/emergency procedures to include engine and prop malfunctions, abort procedures, pressurization and pneumatic problems, and anti-ice/deice problems.

Requirement. See SIM-3 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-102.

SFAM-104   2.0   CACT

Goal. Instruct QOUI on departure, enroute climb, enroute high altitude, normal descent, and terminal procedures for a line flight from one airport to another airport. Introduce and discuss the ice and rain protection systems, procedures, and malfunctions. Introduce the TCAS/TCAS II system. Introduce and practice single-engine missed approach procedures. Review previous systems and additional related malfunctions.

Requirement. See SIM-4 in the Flight Safety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. The QOUI should be able to demonstrate to the instructor normal, abnormal, and selected emergency

procedures and checklist usage in a timely and sequentially correct manner.

Prerequisite. SFAM-103.

SFAM-105   2.0   CACT

Goal. To instruct QOUI on procedures for engine failures at or after Vr and subsequent single-engine approaches and missed approaches. Introduce and practice crosswind takeoffs and landings. Discuss windshear scenarios during takeoff and landing and apply the procedures in various windshear scenarios during takeoff and landing.

Requirement. See SIM-5 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Demonstrate correct engine failure procedures during critical flight stages and practice crosswind takeoff and landing technique. Demonstrate proper windshear recognition and escape procedures during takeoff and landing scenarios. Continue to develop standardized checklist procedures and CRM skills.

Prerequisite. SFAM-104.

SFAM-106   2.0   CACT

Goal. Instruct the QOUI on high density altitude conditions and the effect on aircraft performance with both engines and one engine inoperative. Review previously discussed systems and related malfunctions.

Requirement. See SIM-6 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. QOUI should demonstrate ability to conduct normal and emergency procedures at high density altitude field conditions. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-105.

SFAM-107   2.0   CACT

Goal. Instruct QOUI on landing gear, wheel brake, and wing flap systems and related malfunctions. Discuss dual engine failure/flameout and power off glide procedures. Discuss and perform ditching procedures. Provide a general review of previous systems and malfunctions.

Requirement. See SIM-7 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. QOUI should demonstrate ability to recognize and execute emergency procedures related to landing

gear, wheel brake, and wing flap systems. Continue to practice standardized checklist and operational procedures and CRM skills.

Prerequisite. SFAM-106.

SFAM-108   2.0   CACT

Goal. QOUI will conduct a comprehensive review of previous systems, procedures, and malfunctions in preparation for a NATOPS Evaluation Flight. Cover any specific PUI requests or problems. Malfunctions and failures will be induced at the instructor's discretion based on the student's level of proficiency.

Requirement. See SIM-8 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. Progress check for QOUI. QOUI should demonstrate ability to apply correct NATOPS procedures for instructor selected malfunctions and emergency scenarios. QOUI should demonstrate appropriate CRM skills in handling these emergency scenarios.

Prerequisite. SFAM-107.

SFAM-109   2.0   E   CACT

Goal. Conduct a UC-12 NATOPS Evaluation Flight in accordance with Chapter 30 of the NAVAIR 01-C12AAA-1 NATOPS Flight manual.

Requirement. See Chapter 30 of the NAVAIR 01-C12AAA-1 NATOPS Flight Manual and RQD-600 from this T&R.

Performance Standard. Demostrate NATOPS standards to operate as QOUI in accordance with UC-12 NATOPS Chapter 30.

Prerequisite. SFAM-108.

205. CORE SKILL BASIC PHASE

1. General

    a. This phase contains core skill basic training essential to operational employment of the UC-12.

    b. At the completion of this phase of training, the QOUI should be designated a UC-12 Qualified Observer (QO).

2. Familiarization

    a. Purpose. Develop proficiency as a QO with the systems management requirements of the UC-12 in all ground, takeoff, landing, and flight modes.

    b. General

        (1) QOUIs shall successfully complete approved CACT initial course prior to starting this phase of training.

(2) Flights in this phase of instruction shall be flown sequentially, single-sortie, with complete brief/debrief for each flight.

(3) Only aircrew scheduled for CACT recurrent training shall complete the SFAM-201 – SFAM 203 series codes.

(4) While attending the CACT-approved pilot recurrent course the QO will spend 2 hours in the right seat for each sortie.

   c. <u>Crew Requirements</u>. IP and QOUI.

   d. <u>Flight and Simulator Event Training</u>. (3 Simulator, 6 hours, 4 Flights, 8 hours).

SFAM-201   2.0   R   CACT

<u>Goal</u>. Perform normal procedures/checklists, engine starts, engine run-up procedures with associated malfunctions. Review the engine system, propeller system, electrical system, fuel system, and related malfunctions. Practice airwork items including takeoffs, climbs, turns, steep turns, stalls, descents, holding, instrument approaches, landings, and single engine procedures. Discuss, observe, and practice Aircrew Coordination skills during simulator training.

<u>Requirement</u>. See SIM-1 in the FlightSafety international United States Navy/Marine Corps UC-12 Refresher Training Course for detailed description of event.

<u>Performance Standard</u>. Demonstrate proper procedures and aircraft handling during all phases of flight.

<u>Prerequisite</u>. Successful completion of CACT initial course and SFAM-105.

SFAM-202   2.0   R   CACT

<u>Goal</u>. Perform engine starts with associated failures and practice normal and abbreviated ground procedures. Review the charts and practice the procedures applicable to high altitude, high temperature takeoff with an engine failure after Vr, a subsequent single engine approach, and/or single engine missed approach, Review the pressurization system, pneumatic systems, environmental systems, oxygen system, and related malfunctions. Continue to review the engine system, propeller system, electrical system, fuel system, and related malfunctions. Conduct additional instrument procedures, approaches, and missed approaches. Experience and practice crosswind landings, takeoffs, and recovery from low level wind shear. Continue to apply Aircrew Coordination Skills.

<u>Requirement</u>. See SIM-2 in the FlightSafety international United States Navy/Marine Corps UC-12 Refresher Training Course for detailed description of event.

<u>Performance Standard</u>. Demonstrate proper procedures and aircraft handling during all phases of flight.

<u>Prerequisite</u>. SFAM-201.

SFAM-203   2.0   R   E   CACT

<u>Goal</u>. Perform all the procedures/checklists necessary to complete a short round trip between two airports. Review the

anti-ice systems, flight control systems, landing gear system, wheel brake system, pitot-static system, avionics and flight instrument systems, and related malfunctions. Review any systems and/or related malfunctions from the previous simulator periods as necessary. Conduct additional instrument procedures, approaches, and missed approaches. Continue to fine tune Aircrew Coordination skills.

Requirement. See SIM-3 in the Flight Safety International United States Navy/Marine Corps UC-12 Refresher Training Course for detailed description of event.

Performance Standard. Demonstrate knowledge of systems and competent handling of the aircraft with emphasis on flight skills, situational awareness, and headwork.

Prerequisite. SFAM-202.

FAM-210   0.0   UC-12

Goal. Introduction to UC-12 ground ops and checklist.

Requirement. Brief flight planning, weight and balance, passenger/cargo loading, takeoff/performance data, checklists (practice with IP), crew coordination, voice procedures and radio calls, and emergency and survival equipment. Introduce aircraft preflight, start, run-up, taxi, aborted takeoff, and normal shutdown.

Performance Standard. QOUI should have a basic understanding of NAVY/USMC checklist flow and general knowledge of preflight procedures.

Prerequisite. SFAM-105.

FAM-211   2.0   R   UC-12

Goal. Introduction to normal and abnormal UC-12 flight procedures.

Requirement. Brief preflight/flight planning, aircrew coordination/voice calls, checklists, normal start procedures, abnormal starts, engine fire on deck, aborted takeoff, runaway torque on deck/in flight, emergency egress, taxiing, run-up (procedure & limits), takeoff, touch-and-go procedures, fuel system & emergencies, landing gear system and emergencies, and critical memory items. Review preflight. Introduce checklists, communication procedures and equipment, demonstrate starting engines, taxi and engine runup, normal takeoff, aborted takeoff, climb schedule (charts), normal cruise, slow flight, steep turns, approach to stall/full stalls, unusual attitudes, oxygen system, environmental control, and postflight. Observe landings (full flap, approach flap, no flap and with reverse), engine failure in flight and emergency engine shutdown, starter assisted airstart, and waveoff. Debrief.

Performance Standard. In accordance with NFM.

Prerequisite. FAM-210.

FAM-212   2.0   UC-12

       Goal. Refine right seat procedures for ground and flight
       operations in VFR environment.

       Requirement. Observe engine starts with associated failures
       and practice normal and abbreviated ground procedures. Review
       the charts and practice the procedures applicable to high
       altitude, high temperature takeoff with an engine failure after
       Vr, a subsequent single engine approach, and/or single engine
       missed approach. Review the pressurization system, pneumatic
       systems, environmental systems, oxygen system, and related
       malfunctions. Continue to review the engine system, propeller
       system, electrical system, fuel system, and related
       malfunctions. Conduct additional instrument procedures,
       approaches, and missed approaches. Observe crosswind landings,
       takeoffs, and recovery from low level wind shear. Continue to
       apply Aircrew Coordination Skills.

       Performance Standard. In accordance with NFM.

       Prerequisite. FAM-211.

3. Instruments

    a. Purpose. To acquaint the QOUI with the flight characteristics,
navigation equipment, and flight instruments under simulated or actual
instrument flying conditions. QOUI should demonstrate keen awareness of
flight instrument interpretation and spatial orientation. After completion of
stage, QOUI should be able to operate as a crewmember in the Air Traffic
Control environment outside the local area.

    b. General. Approaches should terminate in touch-and-go landings, if
possible, emphasizing Missed Approach Point/Decision Altitude decision making
to either a normal landing or missed approach. Events should be flown with at
least 1 approach and landing at an airfield other than the QOUI's home field.

    c. Crew Requirements. IP, QOUI.

    d. Ground/Academic Training. Complete locally approved Instrument Ground
school course.

    e. Flight Training (2 Flights, 4.0 Hours)

INST-221   2.0   UC-12

       Goal. Introduce UC-12 navigation equipment and nonprecision/
       precision approach capabilities.

       Requirement. Preflight briefing to include propeller system,
       bleed air system, explosive decompression, lost communications,
       fuselage fire, comm/nav radios, AP/FD use SID's & STAR's,
       enroute ATC procedures, instrument approach procedures straight
       in approaches and circling approaches, weather radar, severe
       weather procedures, and omega/long range nav systems. Review
       preflight, checklists, engine start hot start and no light-off,
       (taxi no brakes and hot brakes), abort, climb, cruise, engine
       shutdown, airstart, postflight, and yellow sheet. Introduce
       prop failure/overspeed, fuselage fire, engine chip light, fuel
       crossfeed after engine failure, manual gear extension,

emergency descent, landings (two engine and single engine), instrument approaches straight in and circling, TACAN, VOR, LOC BC, NDB, ASR, ILS and PAR, missed approach (dual engine and single engine), holding, and omega/long range nav. Debrief.

Performance Standard. In accordance with NATOPS Flight Manual, Chapter 7 (Shore-Based Procedures) and Chapter 18 (Instrument Flight Procedures).

Prerequisite. FAM-212.

INST-222   2.0   R   UC-12 N

Goal. Introduce UC-12 nonprecision/precision capabilities at night.

Requirement. Preflight brief to include autopilot/flight director use, aircraft lighting, emergency lights, pilot alternate static air source, electric ice vane failure, anti-ice/de-ice systems, electrical malfunctions, fuel planning/logs, loss of AC/DC power, and sub-panel feeder circuit breaker. Review preflight inspection, checklists, engine start and runup, takeoff and IFR departure, climb, cruise, holding procedures, approaches single and two engine, ILS/LOC, TACAN, PAR, VOR/ADF, missed approach, waveoff, engine shutdown after flight, night aircraft secure procedures, postflight, and yellow sheet. Demonstrate night pattern and night landings. Debrief.

Performance Standard. In accordance with NATOPS Flight Manual, Chapter 7 (Shore-Based Procedures) and Chapter 18 (Instrument Flight Procedures).

Prerequisite. INST-221.

206. CORE PLUS PHASE

1. General

    a. This phase of training allows additional unit training flexibility.

    b. Training accomplished in this phase is not required for proficiency in primary missions.

2. Ground/Academic Training. Ground/Academic training developed at the unit level based on local requirements and anticipated future support requirements.

3. Flight/Simulator Training. (2 Events, 4.0 Hours)

FAM-401   2.0   UC-12

Goal. Train QOUI to navigate along a published VR Route, no lower than 1000' AGL.

Requirement. QOUI plan and execute VFR flight using VFR sectionals and DR navigation. QOUI navigates from the right seat using the VFR sectional and DR techniques as the primary means of navigation and instrument navaids/FMS as secondary.

Performance Standard. NFM.

Prerequisite. DESIG-620.

Crew Requirements. IP, QOUI.

FAM-402   2.0   UC-12

Goal. Train the QOUI in basic search and rescue and on-scene commander procedures.

Requirement. QOUI demonstrate the ability to act as on-scene commander and to plan and conduct basic visual search using various search patterns.

Performance Standard. NFM

Prerequisite. DESIG-620.

Crew Requirements. IP, QOUI.

207. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE

1. General. These events are to be used for the annual training requirements to include NATOPS and Instrument evaluation flights and official qualification and designation check-rides.

2. Purpose. Evaluate and develop skills in accordance with applicable directives.

3. Requirements

   a. Purpose. To enable the VMR Detachment to document completion of required events. The event codes delineate satisfactory completion of all academic, simulator, and flight requirements.

   b. Ground/Academic Training. Per the appropriate 100 and 200 level syllabus.

   c. Flight/Simulator Event Training. Per the appropriate 100 and 200 level syllabus.

RQD-600   2.0   E   CACT

Goal. Initial NATOPS evaluation.

Requirement. Perform annual NATOPS evaluation. See SIM-9 in the FlightSafety International United States Navy/Marine Corps UC-12 Initial Plus Training Course for detailed description of event.

Performance Standard. per NATOPS, OPNAVINST 3710.7.

Prerequisite. Appropriate CACT syllabus completed. Satisfactory completion of NATOPS Open and Closed Book examinations.

RQD-601   2.0   R E   UC-12 (N)

<u>Goal</u>. Annual NATOPS instrument evaluation.

<u>Requirement</u>. Perform annual Instrument evaluation.

<u>Performance Standard</u>. Per OPNAVINST 3710.7_, NFM, and NIFM.

4. <u>Designations</u>

a. <u>Purpose</u>. To enable the VMR Detachment to document completion of designation events. Designation codes delineate satisfactory completion of all academic, simulator, and flight requirements for the designation being completed. Reference the 100 and 200 level codes for designation requirements.

b. <u>General</u>. Designation flights will be flown only after all requirements have been met. Subsequent re-flight of sorties requiring the designation will automatically update the designation code.

DESIG-620   2.0   R E   UC-12

<u>Goal</u>. QO evaluation flight.

<u>Requirement</u>. Preflight briefing to include flight planning, weight and balance, fuel computations, and normal and emergency procedures. Demonstrate a thorough knowledge of the aircraft systems, the ability to perform the responsibilities of a qualified observer, and the ability to assist the TPC in all aircraft configurations under varying emergency and meteorological conditions.

<u>Performance Standard</u>. NFM.

<u>Prerequisite</u>. Open and Closed book exam. Completion of QOUI syllabus events.

<u>Crew Requirements</u>. IP, QOUI.

208. SYLLABUS MATRIX

STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INTVL	DEVICE	ENVIRMNT	PREREQ	POI	EVAL	CHAINING	EVENT DESC	EVENT CONV
UC-12 QUALIFIED OBSERVER												
100 SERIES CORE SKILL INTRODUCTION PHASE												
FAMILIARIZATION												
SFAM	101		2.0	*	S		CACT GROUNDSCHOOL				Familiarization	
SFAM	102		2.0	*	S		101				Familiarization	
SFAM	103		2.0	*	S		102				Familiarization	
SFAM	104		2.0	*	S		103				Familiarization	
SFAM	105		2.0	*	S		104				Familiarization	
SFAM	106		2.0	*	S		105				Familiarization	
SFAM	107		2.0	*	S		106				Familiarization	
SFAM	108		2.0	*	S		107				Familiarization	
SFAM	109		2.0	*	S		108		E	600	NATOPS Evaluation	600
			18.0	**PHASE TOTAL**								
200 SERIES CORE SKILL BASIC PHASE												
FAMILIARIZATION												
SFAM	201		2.0	365	S		105	R			Familiarization	
SFAM	202		2.0	365	S		201	R			Familiarization	
SFAM	203		2.0	365	S		202	R	E		Familiarization	
FAM	210	0.0		*	A	D	109				Preflight & Checklist	
FAM	211	2.0		180	A	D	210	R			Familiarization	
FAM	212	2.0		*	A	D	211			211	Familiarization	
		4.0	6.0	FAM Total								
INSTRUMENTS												
INST	221	2.0		*	A	D	212			211	Instrument	
INST	222	2.0		180	A	N	221	R		211	Night Instrument	
		4.0		INST Total								
		8.0	16.0	**PHASE TOTAL**								
400 SERIES CORE SKILL PLUS PHASE												
FAMILIARIZATION												
FAM	401	2.0		*	A	D	620	*			VFR Low Level	
FAM	402	2.0		*	A	D	620	*			Basic SAR	
		4.0		**PHASE TOTAL**								
REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS												
REQUIREMNTS												
RQD	600	2.0		365	A	D		R	E	211,222	NATOPS Check	600
RQD	601	2.0		365	A	(N)		R	E	211,222	Instrument Check	601
		4.0										
DESIGNATIONS												
DESIG	620	2.0		*	A	D		R	E	211,222	QO NATOPS EVALUATION	620
		6.0		**PHASE TOTAL**								

Notes: R – Refresh
        D – Day, N – Night, (N) Day or Night

CHAPTER 3

UC-12 TRANSPORT AIRCREW

* * **N O T E** * *

**Crew Resource Management will be briefed for all flights and aircrew
positions.**

CHAPTER 3

UC-12 TRANSPORT AIRCREW

300. UC-12 CORE COMPETENCY

1. Mission. See Chapter 1.

2. Mission Essential Task List. See Chapter 1.

3. Table of Organization. See Chapter 1.

4. Core Capability Statement. See Chapter 1.

5. METL/Core Skill Matrix

METL	FAM	CPL
a. Conduct Airlift in the JOA.	X	X
b. Provide support to DOD and other Government agencies.	X	X
c. Conduct Sea and Air deployment operations.	X	X
d. Support counter-drug operations	X	X
e. Distribute supplies and provide transport services.	X	X
f. Provide support for Search and Recovery Operations (SAR)	X	X
g. Provide support for Noncombatant Evacuation Operations (NEO)	X	X

6. Qualifications and Designations Tables. The tables below delineate T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All required ground training will be completed prior to completion of the final events. Qualification letters signed by the commanding officer shall be placed in individual NATOPS and APR jackets. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification.

Qualification	Initial Qualification Requirements
NATOPS (600E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
Designation	Designation Requirements
TA (620E)	All 100, 200, and 300 level codes and a designation letter signed by the commanding officer.
TA Instructor (650E)	Be nominated by standardization board, all 500 codes, and a designation letter signed by the commanding officer.

301. <u>PROGRAM OF INSTRUCTION (POI) FOR BASIC TRANSPORT AIRCREW (TA)</u>. A
transport aircrew under instruction (TAUI) must pass a flight physical and be
on assigned flight orders.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-4	Ground School	CACT/VMR Det
4-7	Core Skill Introduction Phase	VMR Det
8-12	Core Skill Basic Phase	VMR Det

302. <u>PROGRAM OF INSTRUCTION FOR REFRESHER TRANSPORT AIRCREW</u>. A TAUI who was
previously NATOPS qualified in the UC-12 will complete the Refresher
syllabus. All others will complete the basic syllabus.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-4	Core Skill Introduction Phase	VMR Det
5-6	Core Skill Basic Phase	VMR Det

303. <u>PROGRAM OF INSTRUCTION FOR TRANSPORT AIRCREW INSTRUCTOR</u>

WEEKS	COURSE/PHASE	ACTIVITY
1-3	Instructor Under Training	VMR Det

304. <u>FLIGHT/SIMULATOR/GROUND EVENT PERFORMANCE REQUIREMENTS</u>

1. <u>General</u>

     a. A Transport Aircrewman Under Instruction (TAUI) who was previously
NATOPS qualified in the UC-12 will complete the "Refresher" syllabus. All
others will complete the Basic syllabus.

     b. This Manual is designed to provide the most comprehensive training
possible yet maintain flexibility in a rapidly changing operational
environment. UC-12 Ground School should be conducted at an FRS or Civilian
Approved Contracted Trainer (CACT), if available, prior to commencing flight
training. If an FRS or CACT is not available a locally approved ground
school may be conducted.

     c. The time required to train a Transport Aircrew will vary depending on
previous experience and individual ability. Personnel under instruction may
come from any MOS. The number of hours required for designation as a TA is
outlined in the NATOPS. This requirement is a minimum and may be increased
as deemed necessary by the unit commander. All flight training will be
conducted in conjunction with pilot training or operational flights.

2. <u>Crew Resource Management (CRM)</u>. Aircrews shall include CRM as an
integral part of every brief.

3. The minimum crew for training will consist of a Transport Plane Commander
(TPC), Copilot, Transport Aircrewman (TA). Transport Aircrewman Under
Instruction (TAUI) will fly with a qualified TA or Transport Aircrewman
Instuctor (TAI) or an Instructor Pilot (IP).

305. CORE SKILL INTRODUCTION PHASE

1. General. This stage is designed to ensure a high level of knowledge is attained through study and instruction during flight operations.

2. Familiarization

    a. Purpose. To familiarize the TAUI with the UC-12 aircraft. Instruction will emphasize normal and emergency procedures, operation of aircraft systems, and aircraft inspections and servicing.

    b. Crew Requirements. The minimum crew will consist of a Transport Plane Commander (TPC), Copilot (T2P/PUI/QO/QOUI), Transport Aircrewman Instructor (TAI) and Transport Aircrewman Under Instruction (TAUI).

    c. Ground/Academic Training

        (1) It is recommended that the TAUI attend an FRS Ground School or CACT. If this training is unavailable unit level academic training will at a minimum cover the following topics:

        Orientation
        Aircraft Systems
        Normal Procedures
        Emergency Procedures and Equipment *
        Aircraft Limitations
        Aircraft Flight Characteristics
        Mission Planning
        Weight and Balance
        Aircraft Configuration (pax/cargo/medevac)
        Passenger Loading/Briefing/Offloading
        Cargo Loading/Offloading
        Flight Publications
        Flight Logs and Records (LFR, NAVFLIRS, etc.)
        Aircraft Inspections (preflight, postflight)
        Line Operations (aircraft directing/parking)
        Aircraft Servicing
        Aircraft Securing/Security
        First Aid
        Navigation Equipment (if installed)
        Aircrew Coordination and Responsibilities
        NATOPS Open/Closed Book Exams

        (2) All TA complete Emergency Procedures Training for cabin aircrew. This training will be accomplished within 6 months of qualification as a TA. It is recommended that this training be conducted at a CACT. If CACT training is unavailable unit level instruction shall include: egress, escape hatch, life raft positioning responsibilities, fire extinguishers, and emergency radio.

    d. Flight and Simulator Event Training. (6 Events, 10.0 Hours).

FAM-100   0.0   UC-12

            Goal. Introduce UC-12 ground procedures.

            Requirement. Discuss military appearance, brief and debrief, flight publications, flight planning, and emergency procedures (TA responsibilities). Introduce preflight and postflight

inspections, airframe visual checks, checklists (normal and emergency), and cockpit checks and procedures. Discuss servicing and security requirements.

Performance Standard. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

Prerequisite. Ground School.

FAM-101   2.0   UC-12

Goal. Introduce UC-12 normal procedures.

Requirement. Review military appearance, all inspections, passenger brief, cockpit check and procedures, aircraft servicing, and all previously discussed emergency procedures. Discuss the aircraft in general (including dimensions), basic aircraft weight, weight and balance, cargo loading, flight packet, credit cards and receipts, passenger manifest, and lookout doctrine. Introduce Logistic Flight Record (LFR) and NAVFLIRS.

Performance Standard. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

Prerequisite. FAM-100.

FAM-102   2.0   UC-12

Goal. Introduce UC-12 emergency procedures.

Requirement. Review preflight and post flight inspections. Discuss onboard emergency equipment and passenger brief. Discuss the following emergency procedures: electrical fire, cabin fire, emergency evacuation, incapacitated passenger, ditching, pressurization system failures, auto pilot familiarization, and elimination of smoke and fumes.

Performance Standard. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

Prerequisite. FAM-101

FAM-103   2.0   UC-12   N

Goal. Introduce UC-12 normal and emergency procedures at night.

Requirement. Review preflight and post flight inspections. Discuss passenger brief, cockpit check and procedures, aircraft servicing, and all previously discussed emergency procedures. Discuss the aircraft in general (including dimensions), basic aircraft weight, weight and balance, cargo loading, flight packet, credit cards and receipts, passenger manifest, lookout doctrine lighting system and TA responsibilities at night.

Performance Standard. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

Prerequisite. FAM-102.

FAM-104   2.0   UC-12 (N)

        <u>Goal</u>. Introduce UC-12 passenger procedures.

        <u>Requirement</u>. Review preflight and post flight inspections, flight preparation, passenger brief, crew coordination. Discuss passenger assistance and comfort, environmental system, oxygen system. Introduce Logistic Flight Record (LFR) and NAVFLIRS.

        <u>Performance Standard</u>. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

        <u>Prerequisite</u>. FAM-103.

FAM-105   2.0   E   UC-12 (N)

        <u>Goal</u>. Introduce UC-12 cargo procedures.

        <u>Requirement</u>. Review preflight and post flight inspections, flight preparation, passenger brief, crew coordination, and Logistic Flight Record (LFR) and NAVFLIRS. Introduce cargo weight and balance, seat removal, cargo door, cargo securing procedures and hazardous/special use cargo/passengers.

        <u>Performance Standard</u>. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

        <u>Prerequisite</u>. FAM-104.

306. <u>CORE SKILL BASIC PHASE</u>

1. <u>General</u>

    a. Prior to beginning this phase of training the TAUI will complete FAM-100 through FAM-105.

    b. In preparing for a mission, aircrew shall study emergencies as prescribed in the NATOPS Flight Manual. In addition to the emergency procedures, study the aircraft systems.

    c. All events shall be conducted in conjunction with a line mission.

2. <u>Cargo/Passenger Loading</u>

    a. <u>Purpose</u>. To refine the TA's knowledge of UC-12 systems, normal and emergency procedures, and to introduce TA responsibilities on airlift missions.

    b. <u>Crew Requirements</u>. The minimum crew will consist of a Transport Plane Commander (TPC), Copilot (T2P/PUI/QO/QOUI), Transport Aircrew Instructor (TAI) and Transport Aircrew Under Instruction (TAUI).

    c. <u>Flight and Simulator Event Training</u>. (3 Events, 6.0 Hours).

CPL-201   2.0   R   UC-12

        <u>Goal</u>. Review UC-12 emergency procedures.

        <u>Requirement</u>. Review preflight and post flight inspections. Discuss onboard emergency equipment and passenger brief. Discuss

the following emergency procedures: electrical fire, cabin fire, emergency evacuation, incapacitated passenger, ditching, pressurization system failures, and elimination of smoke and fumes.

Performance Standard. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

Prerequisite. FAM-105.

CPL-202   2.0   UC-12 (N)

Goal. Perform TA responsibilities during an airlift passenger mission.

Requirements. Perform duties involving the loading and unloading of passengers, briefing passengers, and assisting passengers during flight. Perform preflight and post flight aircraft inspections. Demonstrate knowledge of aircraft systems and weight and balance restrictions.

Performance Standard. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

Prerequisite. CPL-201.

CPL-203   2.0   R   UC-12 (N)

Goal. Perform TA responsibilities during an airlift cargo mission.

Requirements. Perform duties involving the loading and unloading of cargo, briefing pilots on weight and balance and status of cargo, complete weight and balance form, and securing cargo. Perform preflight and post flight aircraft inspections. Demonstrate knowledge of aircraft systems.

Performance Standard. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

Prerequisite. CPL-202.

307. CORE SKILL ADVANCED PHASE

1. General

    a. TA will have completed all basic skill introduction and basic phases prior to starting the advanced phase.

    b. In preparing for a mission, aircrew shall study emergencies as prescribed in the NATOPS Flight Manual. In addition to the emergency procedures, study the aircraft systems.

    c. All events shall be conducted in conjunction with a line mission.

2. Advanced Cargo/Passenger Loading

    a. Purpose. To review the TA's knowledge of UC-12 systems, normal and emergency procedures, and TA responsibilities on airlift missions.

b. <u>Crew Requirements</u>. The minimum crew will consist of a Transport Plane Commander (TPC), Copilot (T2P/PUI/QO/QOUI), Transport Aircrew Instructor (TAI) and Transport Aircrew Under Instruction (TAUI).

c. <u>Flight Training</u>. (2 Events, 4.0 Hours).

CPL-301   2.0   UC-12 (N)

>   <u>Goal</u>. Review TA responsibilities during an airlift passenger and or cargo mission.
>
>   <u>Requirements</u>. Review duties involving the loading and unloading of cargo and or passengers, briefing pilots on weight and balance and status of cargo, complete weight and balance form, briefing passengers, assisting passengers in flight, and securing cargo. Perform preflight and post flight aircraft inspections. Demonstrate knowledge of aircraft systems. Perform preflight and post flight aircraft inspections. Demonstrate knowledge of aircraft systems.
>
>   <u>Performance Standard</u>. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.
>
>   <u>Prerequisite</u>. CPL-203.

CPL-302   2.0   R   UC-12 (N)

>   <u>Goal</u>. Perform TA responsibilities during hazardous cargo and special airlift missions.
>
>   <u>Requirements</u>. Perform duties involving the loading and unloading of hazardous cargo. Configure aircraft for special cargo or passengers. Load, unload, and secure medevac cargo or passengers. Brief pilots on weight and balance and status of cargo, complete weight and balance form, brief passengers, assisting passengers in flight. Perform preflight and post flight aircraft inspections. Demonstrate knowledge of aircraft systems. Perform preflight and post flight aircraft inspections. Demonstrate knowledge of aircraft systems.
>
>   <u>Performance Standard</u>. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.
>
>   <u>Prerequisite</u>. CPL-301.

308. <u>CORE PLUS PHASE</u>

1. <u>General</u>. Several flights in this phase involve skills that have a low probability of execution, and/or are theater specific. Flights should only be flown if qualification is needed for future tasking. Commanding officer's must approve all flights after ORM has been applied. This phase of training allows additional unit training flexibility. Training accomplished in this phase is not required for proficiency in primary missions.

2. <u>Additional Skills Required</u>

a. <u>Purpose</u>. To provide the TA with skills required for special missions or contingency operations.

NAVMC 3500.30
24 Jul 07

b. <u>Crew Requirements</u>. The minimum crew will consist of a Transport Plane Commander (TPC), Copilot (T2P/PUI/QO/QOUI), Transport Aircrew (TA).

c. <u>Flight/Simulator Training</u> (2 Events, 4.0 Hours)

NAV-401   2.0   UC-12

<u>Goal</u>. Train TA in navigation and look out doctrine along a published VR Route, no lower than 1000' AGL.

<u>Requirement</u>. Assist Pilots as required in navigation and look out doctrine on a VFR flight.

<u>Performance Standard</u>. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

<u>Prerequisite</u>. DESIG 620.

FAM-402   2.0   UC-12

<u>Goal</u>. Train the TA in assisting the TPC on basic search and on-scene commander mission.

<u>Requirement</u>. Assist the TPC as required in navigation and lookout doctrine for various search patterns.

<u>Performance Standard</u>. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

<u>Prerequisite</u>. DESIG 620.

309. <u>INSTRUCTOR TRAINING PHASE</u>

1. <u>General</u>. The following general requirements shall be adhered to:

a. Complete the core skill introduction, basic, and advanced phase.

b. Recommended by the standardization board.

2. <u>Instructor Under Training</u>

a. <u>Purpose</u>. Earn designation as Transport Aircrew Instructor (TAI).

b. <u>Crew Requirements</u>. The minimum crew will consist of a Transport Plane Commander (TPC), Copilot (T2P/PUI/QO/QOUI), Transport Aircrew Instructor (TAI) and Transport Aircrew Under Instruction (TAUI).

c. <u>Ground/Academic Training</u>. Demonstrate the ability to give instruction prior to first flight.

d. <u>Flight Training</u>. (2 Events, 4.0 Hours)

IUT-501   2.0   E   UC-12

<u>Goal</u>. IUT familiarization introduction.

<u>Requirements</u>. Discuss preflight briefing, instructional techniques, LFR/NAVFLIR, weight and balance, flight packet/credit cards/receipts, flight publications, enroute breakdown liaison, special use cargo and or passengers, and crew coordination.

Demonstrate a thorough knowledge of preflight/postflight procedures, cockpit check, aircraft dimensions/weight limitations, environmental system, oxygen system, cargo loading/tiedown/offloading, selected inflight emergency procedures, ditching procedures, care and use of survival equipment, aircraft cleanliness, and security.

Performance Standard. Demonstrate mastery of all UC-12 procedures and systems and ability to perform capable instruction to TAUI.

Prerequisite. DESIG-620.

IUT-502   2.0   R E   UC-12

Goal. Demonstrate proficiency as a TAI.

Requirements. Perform instruction in preflight briefing, LFR/NAVFLIR, weight and balance, passenger manifest, VIP/passenger arrival/ departure, quarterdeck procedures, and crew coordination. Demonstrate the ability to instruct a TAUI in preflight/postflight inspection, passenger embarkation/baggage handling/hazardous cargo procedures, cockpit check, lighting system, airframe/ engine limitations, electrical system, anti-ice/de-ice system, fire detection/extinguisher procedures, hot/cold weather procedures, care and use of survival equipment, ditching procedures, and aircraft cleanliness and security.

Performance Standard. Demonstrate mastery of all UC-12 procedures and systems and perform capable instruction to TAUI.

Prerequisite. IUT-501.

310. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE

1. General. These events are to be used for the annual training requirements to include NATOPS flights and official designation check-rides.

2. Requirements, Qualifications, and designations

    a. Purpose. To enable the VMR Detachment to document completion of designation events. Designation codes delineate satisfactory completion of all academic, simulator, and flight requirements for individual flight requirements. Reference the appropriate 100, 200, 300, 400,or 500 level codes.

    b. General. Flights flown in this stage do not constitute flight or simulator events in and of themselves, but instead will be logged upon completion of the appropriate syllabus event per the prerequisites listed below. Subsequent re-flight of sorties requiring the qualification will automatically update these qualification codes. If proficiency is not maintained in at least 1 of the prerequisite codes, then qualification will have to be regained by flying the appropriate R-coded sorties.

    c. Ground/Academic Training. Per the appropriate level syllabus.

    d. Crew Requirements. Per the appropriate syllabus event description.

    e. <u>Flight/Simulator Event Training</u>. None.

<u>RQD-600</u>   2.0   R E   UC-12 (N)

          <u>Goal</u>. Complete annual NATOPS evaluation.

          <u>Requirement</u>. Perform annual NATOPS evaluation per the operating Manual, OPNAVINST 3710, and all applicable local directives.

          <u>Performance Standard</u>. In accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

<u>DESIG-620</u>   2.0   R E   UC-12 (N)

          <u>Goal</u>. UC-12 Transport Aircrew Designation

          <u>Requirement</u>. Complete UC-12 Transport Aircrew syllabus as outlined in this guide.

          <u>Performance Standard</u>. In accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

          <u>Prerequisite</u>. CPL-302.

<u>DESIG-650</u>   2.0   R E   UC-12 (N)

          <u>Goal</u>. UC-12 Transport Aircrew Instructor Designation.

          <u>Requirement</u>. Complete UC-12 Transport Aircrew Instructor syllabus as outlined in this guide.

          <u>Performance Standard</u>. Performance will be in accordance with NATOPS Flight Manual and Unit Standard Operating Procedures.

          <u>Prerequisite</u>. IUT-502.

311. SYLLABUS MATRIX

STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INTVL	DEVICE	ENVIRMNT	PREREQ	POI	EVAL	CHAINING	EVENT DESC	EVENT CONV
							UC-12 TRANSPORT AIRCREW					
							100 SERIES CORE SKILL INTRODUCTION PHASE					
							FAMILIARIZATION					
FAM	100	0.0		*	A	D	Ground School				Ground procedures	100
FAM	101	2.0		*	A	D	100				Normal procedures	101
FAM	102	2.0		*	A	D	101				Emergency procedures	102
FAM	103	2.0		*	A	N	102				Night Familiarization	103
FAM	104	2.0		*	A	(N)	103				Passenger procedures	
FAM	105	2.0		*	A	(N)	104		E		Cargo procedures	
		10.0	0.0	**PHASE TOTAL**								
							200 SERIES CORE SKILL BASIC PHASE					
							CARGO/PASSENGER LOADING					
CPL	201	2.0		60	A	D	105	R			Emergency Review	200
CPL	202	2.0		365	A	(N)	201			201	Passenger mission	201
CPL	203	2.0		60	A	(N)	202	R		201,202	Cargo mission	
		6.0		**PHASE TOTAL**								
							300 SERIES CORE SKILL ADVANCED PHASE					
							CARGO/PASSENGER LOADING					
CPL	301	2.0		365	A	(N)	203			201,202,203	Cargo/Passenger Loading	
CPL	302	2.0		60	A	(N)	301	R		201,202,203,301	Cargo/Passenger Loading	300
		4.0		**PHASE TOTAL**								
							400 SERIES CORE SKILL PLUS PHASE					
							FAMILIARIZATION					
FAM	401	2.0		*	A	D	620			201,202,203	VFR Low Level	
FAM	402	2.0		*	A	D	620			201,202,203	Basic SAR	
		4.0		**PHASE TOTAL**								
							500 SERIES INSTRUCTOR TRAINING PHASE					
							INSTRUCTOR TRAINING					
IUT	501	2.0		*	A	D	620		E	620	Instructor Training	500
IUT	502	2.0		*	A	D	501	R	E	620	Instructor Training	501
		4.0		**PHASE TOTAL**								
							REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS					
							REQUIREMNTS					
RQD	600	2.0		365	A	(N)		R	E	201,202,203,301,302	NATOPS Check	600
		2.0										
							DESIGNATIONS					
DESIG	620	2.0		*	A	(N)	302	R	E	201,202,203,301,302	TA	400
DESIG	650	2.0		*	A	(N)	502	R	E	620	TA Instructor Check	502
		4.0		**PHASE TOTAL**								

Notes: B – Basic
       R – Refresh
       D – Day, N – Night, (N) Day or Night